

### **ABSTRACT**

An apparatus comprises a variable acoustic source and a microphone, both acoustically coupled to a volume having a fluid region and an air region. The apparatus also can include a processor to determine a volume of the air region based on signals received from the microphone and the variable acoustic source. A fluid valve is coupled to the processor, and is configured to allow an amount of fluid to exit the fluid region associated with the volume of the air region. An atomizer, coupled to the fluid region, is configured to aerosolize at least a portion of the fluid.